

IN THE CLAIMS:

Please amend the claims as follows, without prejudice.

1. *(Currently Amended)* A process to produce a formed zeolite for adsorption purposes with improved adsorption and desorption properties comprising the following steps:

a) mixing of at least one faujasite zeolite powder[, in particular a zeolite 13X powder or a zeolite LSX powder, with] a clay type binder, an inorganic phosphorous salt, and water [and, optionally, with an organic additive],

b) producing [production of] a formed zeolitic body out of the mixture of step a), and

c) drying and calcination of said zeolitic body produced in step b) to fix the binder and to get an [the active] adsorption reagent.

2. *(New)* The process of Claim 1 wherein the faujasite zeolite powder is selected from the group consisting of a zeolite 13X powder and a zeolite LSX powder.

3. *(New)* The process of Claim 1, wherein step a) includes the step of mixing an organic additive with the other materials mixed in setp a).

4 [2]. *(Currently Amended)* The process of Claim 1, comprising after step c) a step of ion exchange.

5 [3]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], wherein the amount of clay binder is between 5 and 30 weight percent based on of the formed zeolitic body [weight].

6 [4]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], wherein the amount of clay binder is between 5 and 20 weight percent of the formed zeolitic body [weight].

7 [5]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], wherein the zeolite powder is at least 70 % in its sodium form.

8 [6]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], wherein the zeolite powder is at least 90% in its sodium form.

9 [7]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], wherein the zeolite powder is at maximum 30 % in its potassium form.

10 [8]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], wherein a pore forming agent is added to the zeolite and binder mixture, [in particular a] the pore forming agent selected from the group consisting of Rayon fibers, Nylon fibers, Sisal fibers, [and] flax, and [as well as] organic polymers[, such as] selected from the group consisting of starch, starch derivatives, ligninsulfonates, polyacrylamides, polyacrylic acids, cellulose and cellulose derivatives.

11 [9]. *(Currently Amended)* The process of Claim 10 [anyone of the preceding claims], wherein the pore forming agent amounts to 2 to 15 weight percent [based on] of the formed zeolitic body [weight].

12 [10]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], wherein the inorganic phosphorous salt used in step a) [b)] is ~~a water soluble phosphorous salt, in particular~~ a phosphorous salt selected from the group consisting of tetrasodium diphosphate, tetrasodium polyphosphate, trisodium phosphate, disodium hydrogen phosphate, sodium dihydrogen phosphate, tripotassium phosphate, dipotassium hydrogen phosphate, and potassium dihydrogen phosphate or a mixture of two or more of said phosphorous salts.

13 [11]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], [where] wherein the amount of inorganic phosphorous salt is between 0.3 and 5.0 weight percent [based on the formed body weight] of the formed zeolitic body.

14 [12]. *(Currently Amended)* The process of Claim 1 [anyone of the preceding claims], [where] wherein the amount of inorganic phosphorous salt is between 0.3 and 3.0 weight percent [based on the formed body weight] of the formed zeolitic body.

15 [13]. *(Currently Amended)* An [a zeolitic] adsorption reagent [compound] obtainable according to the process of Claim 1 [anyone of the preceding claims].

16 [14]. *(Currently Amended)* A process to remove by adsorption one or more low molecular weight organic sulfur compounds from a gaseous or liquid stream, wherein the feed stream is passed through a bed of [formed zeolitic molecular sieve] adsorption reagent produced by the method according to Claim 1 [13].

17 [15]. *(Currently Amended)* The process of Claim 16 [14], wherein the organic sulfur compounds are one or more low molecular weight mercaptans or sulfides.

18 [16]. *(Currently Amended)* The process of Claim [14 or 15] 16, wherein the process to remove by adsorption is carried out with an adsorption temperature of [is at most] 60°C or lower.

19. *(New)* The process of Claim 17, wherein the process to remove by adsorption is carried out with an adsorption temperature of 60°C or lower.

20 [17]. *(Currently Amended)* A desorption process for the desorption of organic sulfur compounds from [a zeolitic] the adsorption reagent [compound] obtainable according to the process of Claim 1 [13], wherein the desorption is done by [a] heating

using a heating profile allowing the organic sulfur compounds to reach their equilibrium adsorption capacity at each temperature.

21 [18]. *(Currently Amended)* A desorption process[, in particular according to Claim 17], for the desorption of organic sulfur compounds from [a zeolitic] the adsorption reagent [compound] obtainable according to the process of Claim 1 [13], wherein the desorption is done by fast heating to a basic temperature of at most 200°C, ~~preferably 100 to 150°C, in particular about 150°C~~, and then using a temperature halt at different temperature levels starting at the basic temperature.

22. *(New)* A desorption process according to Claim 21 wherein the desorption is done by fast heating to a basic temperature in the range of about 100°C to 150°C.

23. *(New)* A desorption process according to Claim 21, wherein the desorption is done by fast heating to a basic temperature of about 150°C.

24 [19]. *(Currently Amended)* A desorption process according to Claim 21 [18], wherein the halt time is at least 10 minutes at each temperature level.

25 [20]. *(Currently Amended)* A desorption process according to Claim 21 [18 or 19], wherein the temperature levels are at least 5°C and at most 50°C apart from each other.

26. *(New)* A desorption process according to Claim 24, wherein the temperature levels are at least 5°C and at most 50°C apart from each other.

27 [21]. *(Currently Amended)* A desorption process[, in particular] according to Claim 20 [17], ~~of organic sulfur compounds from a zeolite adsorption compound of Claim 13~~, wherein the desorption is done by fast heating to a basic temperature of at most 200°C, ~~preferably 100 to 150°C, in particular about 150°C~~, and then heating using a

~~temperature increase of less than 3°C per minute heating using a small temperature increase rate at temperature levels above the basic temperature.~~

28. (New) A desorption process according to Claim 27, wherein the desorption is done by fast heating to a basic temperature in the range of about 100°C to 150°C.

29. (New) A desorption process according to Claim 27, wherein the desorption process is done by fast heating to a basic temperature of about 150°C.

22. (Canceled)

30 [23]. (Currently Amended) The desorption process according to Claim 20 of anyone of Claims 17 to 22, wherein the maximum regeneration temperature is about 320°C heating profile has a maximum temperature of at most about 320°C.

31 [24]. (Currently Amended) The desorption process according to Claim 20 of anyone of Claims 17 to 23, wherein the adsorption reagent is regenerated to its active adsorption state using a regeneration [gas is a] material selected from the group consisting of dry natural gas, methane, liquified natural gas [liquids], hydrogen, nitrogen and [or] hydrocarbons.

32. (New) The desorption process according to Claim 27, wherein the adsorption reagent is regenerated to its active adsorption state using a regeneration material selected from the group consisting of dry natural gas, methane, liquified natural gas, hydrogen, nitrogen, and hydrocarbons.